

REMARKS

Claims 13, 14, 19, 21, and 23-36 are currently pending in this application with claims 23-31 being withdrawn from consideration. Claims 15-18, 20, and 22 have been cancelled. Claims 13, 14, 19, and 21 have been amended. New claims 32-36 have been added. Support for these amendments can be found throughout the specification, for example, at paragraphs [0012]-[0052]; [0088]; [0094]-[0100]; [0128]; [0142]; [0146]; [0203]; [0225]-[0233] of the published application (US 2007/0190207); and cancelled claims 15-18, 20, and 21.

Independent claim 13 as amended is directed to a method of processing green coffee beans comprising a fermentation process. The fermentation process includes bringing green coffee beans which are unground seeds from coffee berries, brewers yeast, and a nutritive substance comprising at least one of fruit juice and fruit pulp into contact with one another to cause fermentation for at least 48 hours. The brewers yeast metabolizes the nutritive substance.

Independent claim 21 is directed to a method of manufacturing roasted coffee beans which also comprises a fermentation process. Like independent claim 13, the fermentation process includes bringing green coffee beans which are unground seeds from coffee berries, brewers yeast, and a nutritive substance comprising at least one of fruit juice and fruit pulp into contact with one another to cause fermentation for at least 48 hours, wherein the brewers yeast metabolizes the nutritive substance. The method of manufacturing roasted coffee beans also includes a separation process of separating out only the green coffee beans that have passed through the fermentation process and a roasting process of roasting the green coffee beans from the separation process.

Independent claim 35 is directed to a method of manufacturing coffee drip extract. This method also includes a fermentation process, a separation process, and a roasting process, wherein the fermentation process includes bringing green coffee beans which are unground seeds from coffee berries, brewers yeast, and a nutritive substance comprising at least one of fruit juice and fruit pulp into contact with one another to cause fermentation for at least 48 hours with the brewers yeast metabolizing the nutritive substance; the separation process includes separating out only the green coffee beans that have passed through the fermentation process; and the roasting process includes roasting the green coffee beans from the separation

process. However, this method also includes a filtering and extracting process of grinding up and adding water to the roasted coffee beans, then extracting the water by filtration with a filter.

Independent claim 36 is directed to a method of manufacturing a canned coffee beverage. This method also includes a fermentation process, a separation process, and a roasting process, wherein the fermentation process includes bringing green coffee beans which are unground seeds from coffee berries, brewers yeast, and a nutritive substance comprising at least one of fruit juice and fruit pulp into contact with one another to cause fermentation for at least 48 hours with the brewers yeast metabolizing the nutritive substance; the separation process includes separating out only the green coffee beans that have passed through the fermentation process; and the roasting process includes roasting the green coffee beans from the separation process; and a filtering and extracting process which includes grinding up and adding water to the roasted coffee beans, then extracting the water by filtration with a filter. The method of manufacturing a canned coffee beverage, however, also includes a heat sterilizing process of filling a container with the drip extract obtained from the extracting process, which is then heated and sterilized.

Prior Art Rejections

Claims 13-14 and 16-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 2,321,148 to Kirby et al. ("Kirby"). Claim 15 stands rejected under 35 U.S.C. § 103(a) for obviousness over Kirby. Claim 19 stands rejected under 35 U.S.C. § 103(a) for obviousness over Kirby in view of the English-language Abstract for Japanese Patent Application Publication No. 11-043390 to Mori ("Mori "). Claim 20 stands rejected under 35 U.S.C. § 103(a) for obviousness over Kirby in view of United States Patent Application Publication No. 2004/0180112 to Hagiwara ("Hagiwara"). Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) for obviousness over Kirby in view of United States Patent No. 6,660,322 to Zapp et al. ("Zapp"). Lastly, claim 22 stands further rejected under 35 U.S.C. § 103(a) for obviousness over Kirby in view of Zapp and United States Patent No. 5,267,507 to Enomoto ("Enomoto").

Kirby is directed to the fermentation of “pulped green coffee” to remove the remaining mucilaginous coating. *See* Kirby, page 1, col. 1, lines 9-14. The process of Kirby is applied to beans which result from the removal of the outermost skin and underlying fruit pulp of coffee berries (or cherries) to expose a green bean covered in mucilage. Kirby notes that the object of its invention is to easily remove such mucilage from pulped green coffee beans. According to Kirby, pulped coffee beans are combined with yeast, or a yeast-malt composition, and then fermented in order to facilitate easy removal of the mucilaginous coating. The Kirby fermentation is performed at a temperature of 26.5°C to 36°C for a period of approximately 15 to 30 hours. *See* Kirby, page 1, col. 2, lines 9-12. The Kirby process decreases the period of time usually required to remove the mucilaginous coating. Further, it prevents the growth or propagation of bacteria.

However, independent claims 13, 21, 35, and 36 of the present application require the use of at least one of fruit pulp and fruit juice as a nutritive substance to be metabolized by brewers yeast for at least 48 hours. Nowhere does Kirby teach or suggest such a process. The claimed process using brewers yeast to metabolize fruit pulp or fruit juice produces aroma and flavor components including esters and alcohols. By allowing the fermentation to progress for at least 48 hours, a significant amount of the flavor and aroma inducing esters and alcohols are adsorbed to the green coffee beans. This results in good flavor and aroma in subsequently processed roasted coffee beans, coffee extracts, and coffee beverages. The resulting flavors and aromas unexpectedly remain after various processing steps, including canning and retort sterilization. *See* Embodiments 1-8 in the present specification.

This is unlike Kirby, which does not teach the use of brewers yeast, a nutritive substance comprising fruit juice or fruit pulp, or fermentation for at least 48 hours. Further, the Kirby process is specifically directed to fermentation for purposes of effectively removing the mucilaginous coating from a pulped green coffee bean. Nothing in Kirby is suggestive of using fruit juice or fruit pulp in conjunction with brewer’s yeast for a long period of time (at least 48 hours) to produce aromas and flavors. To be sure, Kirby does disclose that “coffee produced by

yeast possesses a very characteristic flavor.” However, Kirby describes neither what the “flavor” is, nor the components that produce this “flavor.” Therefore, Kirby neither anticipates nor renders independent claims 13, 21, 35, and 36 obvious.

None of the other cited references teach or suggest the limitations of claims 13, 21, 35, and 36 either. Specifically, Mori discloses that coffee grounds are added as a dissoluble substance to promote fermentation of organic substances. Although the English-language Abstract of Mori discloses “coffee bean pulps,” upon an examination of the Mori reference, Applicants believe that the phrase “coffee bean pulps” should more accurately be translated as “coffee grounds,” i.e., dregs left after coffee has been ground and brewed to produce a coffee beverage. Further, Mori discloses using the coffee grounds to increase the processing speed of fermentation. *See Mori English-language Abstract.* This is wholly contrary to the presently claimed method. The claimed method does not use brewers yeast to affect an increase in fermentation speed. In fact, claims 13, 21, 35, and 36 actually require at least 48 hours of fermentation. Nowhere does Mori suggest the fermentation of fruit pulp or fruit juice with brewers yeast to produce aroma and flavor components including esters and alcohols adsorbed onto green coffee beans.

Hagiwara discloses the use of brewers yeast in conjunction with coffee extraction residue, i.e. waste, left by the roasting process for brewing alcoholic liquors. Hagiwara discloses that the extraction residue is fermented with brewers yeast and sugars to provide an alcoholic beverage having coffee aromas and flavors. Hagiwara does not teach or suggest fermenting fruit juice and fruit pulp with brewers yeast for at least 48 hours to produce aromas and flavors resulting from esters or alcohols which are adsorbed to green coffee beans as a result of the fermentation. Zapp and Enomoto also fail to overcome the deficiencies of Kirby, Mori, and Hagiwara.

The prior art simply does not teach bringing green coffee beans into contact with brewers yeast, and at least one of fruit juice and fruit pulp to provide flavor and aroma components adsorbed onto the coffee beans which remains even after further processing, such as roasting, brewing, and retort sterilization.

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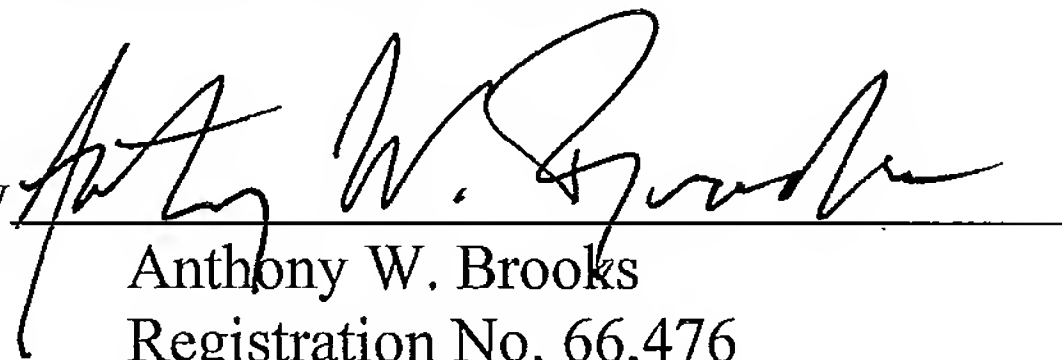
Accordingly, Applicants respectfully submit that independent claims 13, 21, 35, and 36 define patentable subject matter. Because claims 14, 19, and 32-34 depend from and include all the limitations of independent claim 13, they also define patentable subject matter.

Conclusion

In view of the foregoing, Applicants respectfully submit that claims 13, 14, 19, 21, and 32-36 are in condition for allowance. Applicants respectfully request reconsideration of the rejections and allowance of claims 13, 14, 19, 21, and 32-36.

Respectfully submitted,

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